

HP E2467A

Intel APIC Bus Preprocessor Interface

**For use with HP
logic analyzers**

The HP E2467A preprocessor for the Intel Advanced Programmable Interrupt Controller (APIC) bus is a mechanical and electrical interface between the APIC bus and the HP 16500 logic analysis system. The preprocessor operates in a state-per-message mode making it simple to trigger on and display APIC messages. Software provided with the HP E2467A configures the logic analyzer, simplifies trigger set up, and decodes APIC messages into mnemonics.

APIC Bus Connection

General purpose logic analyzer probe connections to APIC bus clock, D0, and D1.

Capabilities

- Specific APIC message triggering is simple with the HP E2467A. The software provided with the preprocessor groups and labels each message part, uniquely identifying it for triggering ease. In addition, the HP E2467A configures the HP 16505A prototype analyzer's triggering menu in the APIC message format, greatly simplifying trigger setup.

- Triggering the logic analyzer on APIC bus errors is easy using the HP E2467A's built-in bus error detection. The HP E2467A can detect the following bus error conditions: arbitration identification (ID), idle, post amble, priority ID, and tie arbitration ID cycles.
- Viewing activity on both the processor and APIC buses at the same time maximizes your visibility into the toughest system debug problems. Software provided with the HP E2467A preprocessor configures the logic analyzer for concurrent operation of the HP E2467A and either the HP E2457A Pentium® or HP E2466B Pentium Pro preprocessors. In this mode, only two HP 1655X family logic analyzer pods are required for complete analysis of the APIC bus.
- Configuration software provided with the HP E2467A preprocessor supports both HP 1655X logic analysis module two-pod and four-pod operating modes. Operating in four-pod mode, an entire HP 16554A/555A/556A deep memory logic analysis card can be dedicated to debugging APIC system operation.

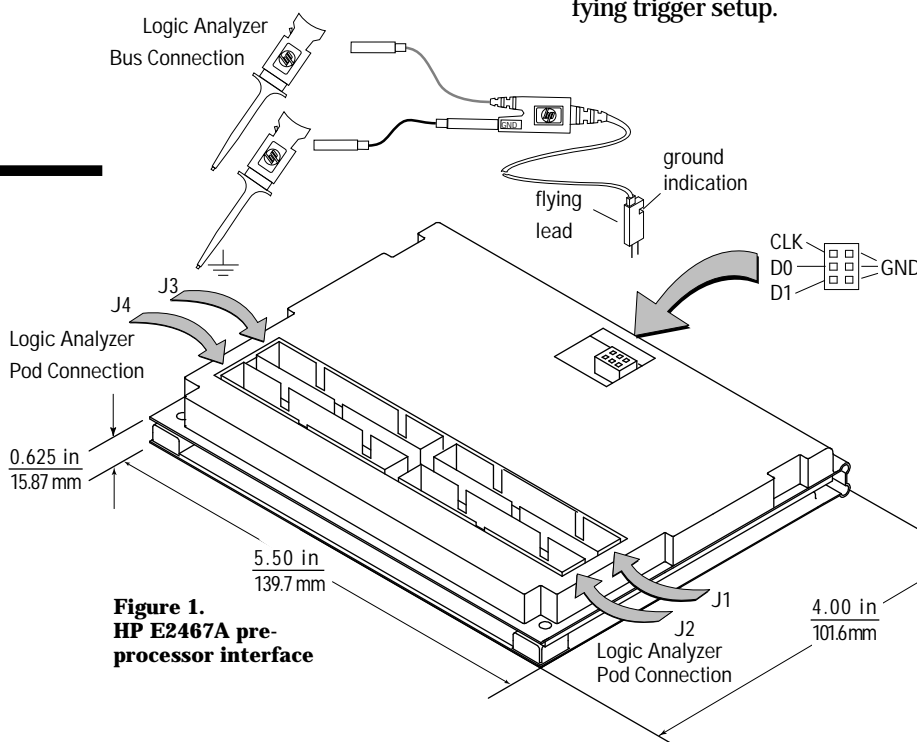


Figure 1.
HP E2467A pre-processor interface

Logic Analyzers Supported

HP 16550A

HP 16554A/555A/556A

Operating mode

State-per-message

For use with

- HP E2457A Pentium preprocessor
- HP E2466B Pentium Pro preprocessor

Error Detection Triggering

(on exceptions in message cycles)

Cycle checked

- Arbitration Identification
- Post Amble
- Idle
- Priority Identification
- Tie Identification Arbitration

Probes Required

Two 17 channel pods (three HP 1655X trigger sequence levels required to trigger on maximum length APIC messages)

Four 17 channel pods (two HP 1655X trigger sequence levels required to trigger on maximum length APIC messages)

Power and Pod Termination Requirements

All power is supplied by logic analyzer. Probe/pod termination networks are built into the preprocessor.

APIC Bus Clock

33 MHz maximum bus clock

Signal Line Loading100 k Ω

8 pF typical

Environmental Characteristics**Temperature**

Operation 0 to 50 °C
 +32 to 131 °F

Altitude 4600m 50,000 feet

Humidity Up to 75% noncondensing. Avoid sudden, extreme temperature changes that could cause condensation on circuit board.

For more information on Hewlett-Packard Test & Measurement products, applications or services please call your local Hewlett-Packard sales offices. A current listing is available via Web through Access HP at <http://www.hp.com>. If you do not have access to the internet, please contact one of the HP centers listed below and they will direct you to your nearest HP representative.

United States:

Hewlett-Packard Company
Test and Measurement Organization
5301 Stevens Creek Blvd.
Bldg. 51L-SC
Santa Clara, CA 95052-8059
1 800 452 4844

Canada:

Hewlett-Packard Canada Ltd.
5150 Spectrum Way
Mississauga, Ontario L4W 5G1
(905) 206 4725

Europe:

Hewlett-Packard
European Marketing Centre
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
31 20 547 9858

Japan:

Hewlett-Packard Japan Ltd.
Measurement Assistance Center
9-1, Takakura-Cho, Hachioji-Shi,
Tokyo 192, Japan
Tel: (81-426) 48-0722
Fax: (81-426) 48-1073

Latin America:

Hewlett-Packard
Latin American Region Headquarters
5200 Blue Lagoon Drive, 9th Floor
Miami, Florida 33126, U.S.A.
(305) 267 4245/4220

Australia/New Zealand:

Hewlett-Packard Australia Ltd.
31-41 Joseph Street
Blackburn, Victoria 3130
Australia
1 800 629 485

Asia Pacific:

Hewlett-Packard Asia Pacific Ltd.
17-21/F Shell Tower, Times Square
1 Matheson Street, Causeway Bay
Hong Kong
(852) 2506 9285

Technical information in this document is subject to change without notice.

Pentium is a registered trademark of Intel Corporation